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EXAMINER

NOTE, JANIS L

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/786,050	Applicant(s) OGAWA ET AL.	
	Examiner Janis L. Dote	Art Unit 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,10 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,10 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The examiner acknowledges the amendment to claim 1 and the cancellation of claims 9 and 12 filed on Apr. 5, 2007.

Claims 1, 4-6, 10, and 11 are pending.

2. The indicated allowability of the subject matter recited in now-cancelled claim 12, which is now recited in instant claim 1, is withdrawn in view of the newly discovered reference to US 6,485,875 B1 (Karaki). Rejections based on the newly cited reference follow.

3. The rejections under 35 U.S.C. 103(a) of claims 1, 4, 5, and 9-11 over US 7,029,813 B2 (Mikuriya) combined with US 5,294,682 (Fukuda), US 4,857,432 (Tanikawa'432), and the other cited references, and the obvious-type double patenting rejections of claims 1, 4-6, 9, and 10 over the subject matter claimed in Mikuriya or in Application 10/900,177, each in view of Fukuda, Tanikawa'432 and the other cited references, set forth in the office action mailed on Jan. 9, 2007, paragraphs 6-10, 12-15, and 17-20, respectively, have been withdrawn in response to the amendment to claim 1 filed on Apr. 5, 2007. That amendment added the limitations of now-cancelled claim 12, which require that the magnetic toner comprise the combination of a monoazo iron compound and an

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aluminum compound of an aromatic hydroxyl carboxylic acid of formula (13). Neither Mikuriya, alone or combined with the cited prior art, nor the claims in Mikuriya or the claims in Application'177, alone or combined with the other cited prior art, render obvious a magnetic toner comprising a binder resin comprising a polyester component polymerized by using a Ti chelate compound and the combination of the aluminum compound of formula (13) and a monoazo iron compound, as recited in instant claim 1. In particular, Tanikawa'432 requires that its magnetic toner comprise a monoazo charge control compound where the central metal atom is scandium, vanadium, manganese, zinc, or titanium. Tanikawa'432, col. 2, line 40, to col. 3, line 5. The Tanikawa'432 monoazo compound is outside the scope of the monoazo iron compound recited in instant claim 1.

4. The examiner notes that the term "average circularity" is defined at page 48, lines 1-13, as the "value determined by dividing the sum of measured circularity values of total particles having equivalent circle diameters of 3 μm to 400 μm , by the number of total particles," where the circularity is defined as L_0/L where " L_0 represents a circumferential length of a circle having an area identical to that of a projected particle image, and L represents a circumferential length of the

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projected particle image processed at an image processing resolution of 512 x 512 (0.3 μm X 0.3 μm pixel)."

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. US 7,029,813 B2 (Mikuriya) has an effective filing date of Nov. 21, 2003, which is prior to the instant specification filing date of Feb. 26, 2004. The inventive entity of Mikuriya differs from that of the instant specification. Accordingly, Mikuriya qualifies as prior art under 35 U.S.C. 102(e).

Applicants have not perfected their claim foreign priority under 35 U.S.C. 119 to Japanese patent application No. 2003-203863. The verified English-language translation of the priority document filed on Jul. 20, 2005, does not provide an adequate written description of the subject matter recited in instant claim 1 as required under 35 U.S.C. 112, first paragraph. The translation does not disclose that the Ti chelate compounds represented by formulae (I) to (IV) can be "hydrates thereof" as recited in instant claim 1.

7. Claims 1, 4, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,029,813 B2 (Mikuriya)

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combined with US 5,294,682 (Fukuda), US 6,475,687 B1 (Hayashi'687), and Karaki, as evidenced by applicants' admission at page 38, line 10, to page 40, line 1, of the instant specification (applicants' admission I).

Mikuriya discloses magnetic toner particles comprising magnetic particles, a release agent, a polar resin, a charge control agent, and an inorganic fine powder. Col. 6, lines 31-42; exemplary compound 4 at col. 12; polar-resin production example 1 at col. 43; and toner production example 14 at col. 50. The toner particles are obtained by dispersing in an aqueous medium a polymerizable monomer composition that contains at least a polymerizable monomer, the magnetic particles, the polar resin, the release agent, the charge control agent, and a polymerization initiator, granulating the polymerizable monomer composition, and polymerizing the polymerizable monomer. The polar resin comprises a polyester unit polymerized in the presence of the titanium chelate catalyst, exemplary compound 4. The polar resin has an acid value of 12 mg KOH/g. Exemplary compound 4 meets the titanium chelate compound compositional limitations of formula (III) recited in instant claim 1. Mikuriya further teaches that the titanium chelate catalyst can equally be that of formula (I), such as exemplary compounds 1 and 2, which both meet the

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compositional limitations of formula (I) recited in instant claims 1 and 10. See col. 9, lines 36-55; and exemplary compounds 1 and 2 at col. 12. Mikuriya further teaches that the acid value of the polar polyester resin ranges from 3 mg KOH/g to 35 mg KOH/g. Col. 6, lines 37-38.

Mikuriya does not exemplify a polar resin comprising a polyester unit comprising an oxyalkylene ether of a novolak phenolic resin as an alcohol component as recited in instant claim 1. However, Mikuriya teaches that polyester unit can be obtained from oxyalkylene ethers of novolak phenolic resins as the polyhydric alcohol component. Col. 19, lines 10-11.

Fukuda teaches that an oxyalkylene ether of a novolak phenolic resin can be used as the polyol, i.e., polyhydric alcohol, component in the formation of a polyester resin. According to Fukuda, a toner that comprises a binder resin comprising a polyester resin obtained by reacting a polycarboxylic acid and such a polyol component has improved fixability at low temperature and resistance to offset. Col. 1, lines 45-61; col. 3, lines 38-40; and for example, resins A and B at col. 11, line 63, to col. 12, line 18, and in Tables 1 and 2. Resins A and B have acid values of 3 and 4.1 mg KOH/g, respectively, which are within the teachings of Mikuriya.

Fukuda further teaches that the polyester resin may have an acid

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value of 0.5 to 30 mg KOH/g, which overlaps the acid value range of 3 to 35 mg KOH/g taught by Mikuriya. Col. 6, lines 9-12.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Mikuriya and Fukuda, to use an oxyalkylene ether of a novolak phenolic resin as the alcohol component in the formation of the polar polyester resin with the titanium chelate catalyst taught by Mikuriya, such that the resultant polyester resin has an acid value as taught by Mikuriya, and to use the resultant polyester resin as the polar resin in the magnetic toner taught by Mikuriya. That person would have had a reasonable expectation of successfully obtaining a magnetic toner that has improved low temperature fixing characteristics and resistance to offset as taught by Fukuda.

Mikuriya does not exemplify a magnetic toner comprising the magnetic particles recited in instant claims. However, Mikuriya does not limit the type of magnetic particles used. Col. 21, line 36.

Hayashi'687 discloses a magnetic toner that comprises toner particles that comprise a binder resin and particular magnetic composite particles of example 7, which comprise magnetic iron oxide, i.e., magnetite, particles. Example 13 at col. 42, lines 40-46, in Table 7 at col. 49, and in Table 8 at cols. 51

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and 52. The magnetic toner has a saturation magnetization of $34.8 \text{ Am}^2/\text{kg}$ and a residual (i.e., remanent) magnetization of $3.7 \text{ Am}^2/\text{kg}$ in a magnetic field of 795.8 kA/m . The saturation magnetization of $34.8 \text{ Am}^2/\text{g}$ together with the residual magnetization of $3.7 \text{ Am}^2/\text{g}$ in a magnetic field of 795.8 kA/m meet the magnetization limitations recited in instant claim 1. The magnetic composite particles in example 7 comprise magnetite particles 5. Magnetite particles 5 comprise spherical magnetite particles 2 and SiO_2 on the surface of magnetite particles 2 in an amount of 0.48 wt% based on the weight of the coated magnetite particles. Col. 10, lines 22-25; Table 1 at col. 43, magnetite particles 2; Table 2 at col. 44, magnetite particles 5; and Table 5 at col. 46, magnetic composite particles in example 7. Based on the information provided in Table 2, the amount of element Si in magnetite particles 5 is determined to be 0.22 wt% based on the weight of the coated magnetite particles. The Si amount of 0.22 wt% is within the amount range of 0.1 to 2.0% by mass recited in instant claim 4. According to Hayashi'687, the magnetic toner particles can be obtained by a suspension polymerization method, "polymerizable monomers and the magnetic composite particles are intimately mixed together with, if necessary, a colorant, a polymerization initiator, a charge controlling agent or other additives and then

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the obtained mixture is dissolved and dispersed together so as to obtain a monomer composition. The obtained monomer composition is added to a water phase containing a suspension stabilizer while stirring, thereby granulating and polymerizing the composition to form magnetic toner particles having the aimed particle size." Col. 32, lines 2-13. The method disclosed by Hayashi'687 appears to be similar to the method disclosed by Mikuriya. Hayashi'687 further teaches that its magnetic composite particles are "not only excellent in fluidity, light resistance, and deep black color, but also can show an excellent dispersibility in a binder resin." Col. 3, lines 59-62. According to Hayashi'687, its magnetic toner exhibits "not only a deep black color but also excellent fluidity and light resistance." Col. 3, lines 63-65.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Mikuriya and the teachings of Hayashi'687, to use the magnetic composite particles in example 7 of Hayashi'687 as the magnetic particles in the toner rendered obvious over the combined teachings of Mikuriya and Fukuda, such that the resultant magnetic toner has the saturation and remanent magnetizations as recited in instant claim 1. That person would have had a reasonable expectation of successfully obtaining a magnetic toner that provides a deep

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black color and that has excellent fluidity and light resistance, as taught by Hayashi'687.

Neither Mikuriya nor Hayashi'687 exemplifies a magnetic toner comprising a monoazo iron compound and an aluminum aromatic hydroxyl carboxylic compound as recited in instant claim 1. However, Mikuriya teaches that its toner may comprise a charge control agent "for keeping the charging performance of the toner stably." Col. 22, lines 34-36. Mikuriya discloses that the charge control agent may include monoazo metal compounds or aromatic oxycarboxylic acid metal compounds, preferably a salicylic acid aluminum compound. Col. 22, lines 40-45, and col. 23, lines 5-9. Hayashi teaches that its magnetic toner may comprise a charge control agent and other additives, if necessary. Col. 29, lines 48-50.

Karaki teaches a charge control agent comprising a monoazo iron compound and an aromatic hydroxycarboxylic acid Al compound. Col. 14, lines 9-14. Karaki teaches that the monoazo iron compound is preferably represented by compounds (VI) and (VII) at col. 15 and that the aromatic hydroxycarboxylic acid Al compound is preferably represented by compound (VIII) at col. 15. See Karaki, example 1-1 at col. 27, which exemplifies a toner comprising the monoazo iron compound (VI) and the 3,5-di-t-butylsalicylic acid Al compound (VIII). According to

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Karaki, the aromatic hydroxycarboxylic acid Al compound exhibits "a quick charging performance at an initial stage in continuous image formation"; while the monoazo iron compound exhibits "a stable chargeability in continuous image formation for a long period." Karaki teaches that combination of the two compounds is preferably used "in order to stably retaining [sic] the chargeability for a long period." Col. 13, line 64, to col. 14, line 14.

Karaki does not explicitly disclose that its 3,5-di-t-butylsalicylic acid Al compound (VIII) is representative of formula (13) recited in instant claim 1. However, the Karaki compound (VIII) is identical to the Al salicylic compound (14) disclosed at page 40, line 1, of the instant specification, which is described as an example of the metal compound of hydroxycarboxylic acid represented by formula (13). See the instant specification, page 38, line 10, to page 40, line 1. Thus, it is reasonable to presume that the Karaki 3,5-di-t-butylsalicylic acid Al compound (VIII) is representative of formula (13) recited in instant claim 1. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

It would have been obvious for a person having ordinary skill in the art to use the Karaki charge control agent

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comprising a monoazo iron compound and the aromatic hydroxycarboxylic acid Al compound, such as 3,5-di-t-butylsalicyclic acid Al compound (VIII), in the magnetic toner rendered obvious over the combined teachings of Mikuriya, Fukuda, and Hayashi'687. That person would have had a reasonable expectation of successfully obtaining a magnetic toner that exhibits "a quick charging performance at an initial stage in continuous image formation" and that stably retains the chargeability for a long period, as taught by Karaki.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikuriya combined with Fukuda, Hayashi'687, and Karaki, as evidenced by applicants' admission I, as applied to claim 1 above, further combined with US 6,197,470 B1 (Tamura).

The combined teachings of Mikuriya, Fukuda, Hayashi'687, and Karaki, as evidenced by applicants' admission I, render obvious a magnetic toner as described in paragraph 7 above, which is incorporated herein by reference.

Mikuriya does not exemplify a magnetic toner comprising a hydrophobic silica as recited in instant claim 5. As discussed in paragraph 7 above, the Mikuriya magnetic toner in example 14

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comprises an inorganic fine powder. The inorganic fine powder comprises hydrophobic silica particles.

Tamura teaches hydrophobic silica particles that are treated with hexamethyldisilazane and a dimethylsilicone oil. Col. 22, lines 35-56, hydrophobic fine silica powder A; and Table 1 at col. 25, treated silica A. The Tamura hydrophobic silica powder A has particular hydrophobic properties. Col. 2, lines 34-49; and Table 2 at col. 25, treated silica A. According to Tamura, when the Tamura hydrophobic silica powder A is externally added to a toner, the toner can keep smeared images from occurring even in an environment of high temperature and high humidity. The toner has good transfer efficiency and does not cause melt abrasion of the photosensitive drum. Col. 2, lines 10-22.

It would have been obvious for a person having ordinary skill in the art to use the Tamura hydrophobic silica powder A as an externally added hydrophobic silica in the magnetic toner rendered obvious over the combined teachings of Mikuriya, Fukuda, Hayashi'687, and Karaki, as evidenced by applicants' admission I. That person would have had a reasonable expectation of successfully obtaining a magnetic toner that has good transfer efficiency, that does not cause melt abrasion of the photosensitive drums, and that provides images without

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smearing even in an environment of high temperature and high humidity, as taught by Tamura.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikuriya combined with Fukuda, Hayashi'687, and Karaki, as evidenced by applicants' admission I, as applied to claim 1 above, further combined with additional teachings in Mikuriya.

The teachings of Mikuriya combined with the teachings of Fukuda, Hayashi'687, Karaki, as evidenced by applicants' admission I, render obvious a magnetic toner as described in paragraph 7 above, which is incorporated herein by reference.

As discussed in paragraph 7 above, the polar resin exemplified in example 14 of Mikuriya comprises a polyester unit polymerized in the presence of the titanium chelate catalyst, exemplary compound 4. Mikuriya teaches that the titanium chelate catalyst can equally be that of formula (I), such as exemplary compounds 1 and 2, which both meet the compositional limitations of formula (I) recited in instant claim 1, from which claim 11 depends. See col. 9, lines 36-55; and exemplary compounds 1 and 2 at col. 12. Mikuriya exemplary compounds 1 and 2 also meet the compositional limitations of Ti chelate compounds (1) and (2), respectively, recited in instant

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claim 11. According to Mikuriya, a toner comprising its polar resin and made by the polymerization process taught by Mikuriya provides high quality images and has a "quick rise of charging that stable charge quantity can be held in any environment."

Col. 6, lines 21-25.

Mikuriya does not exemplify making a polar resin using the combination of exemplary compounds (1) and (2). However, it teaches that any of its titanium chelate compounds may be used in combination of two or more and be used as the catalyst. "This also affords a favorable form of the present invention."

Col. 12, lines 4-7. Mikuriya exemplifies making a polar polyester resin with three titanium chelate compounds, exemplary compounds (1), (3), and (4). See Polar-resin production example 8 at col. 44.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Mikuriya, to use the combination of Mikuriya titanium chelate exemplary compounds (1) and (2) as the catalyst in making the polar polyester resin rendered obvious over the combined teachings of Mikuriya and Fukuda that has an acid value as taught by Mikuriya, and to use the resultant polar polyester resin as the polar resin in the magnetic toner rendered obvious over the combined teachings of Mikuriya, Fukuda, Hayashi'687, and Karaki,

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as evidenced by applicants' admission I. That person would have had a reasonable expectation of successfully obtaining a magnetic toner that has the properties taught by Fukuda, Hayashi'687, and Karaki and that provides high quality images and that has stable charging as taught by Mikuriya.

10. Claims 1, 4, and 10 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of Mikuriya in view of Fukuda, Tamura, Hayashi'687, and Karaki, as evidenced by applicants' admission I.

Reference claim 2, which depends from reference claim 1, recites toner particles comprising a colorant, a release agent, a polar resin, and an inorganic fine powder. The polar resin comprises a polyester unit polymerized in the presence of a titanium chelate catalyst that meets the Ti chelate catalyst limitations recited in instant claims 1 and 10. The polar resin has an acid value of 3 mg KOH/g to 35 mg KOH/g. See formulas (I) to (IV) in reference claim 2. The toner particles are obtained by carrying out granulation in an aqueous medium. Reference claim 9, which depends from reference claim 1, recites that the toner particles are obtained by dispersing in an aqueous medium a polymerizable monomer composition that contains

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at least a polymerizable monomer, the colorant, the polar resin, the release agent, a charge control agent and a polymerization initiator, granulating the polymerizable monomer composition, and polymerizing the polymerizable monomer.

The reference claims of Mikuriya do not recite that the polyester resin comprises a compound having a structure containing an oxyalkylene ether of a novolak phenolic resin as an alcohol component as recited in instant claim 1.

The use of an oxyalkylene ether of a novolak phenolic resin as the alcohol component in the formation of a polyester resin is well known in the toner art. Fukuda teaches that an oxyalkylene ether of a novolak phenolic resin can be used as the polyol, i.e., polyhydric alcohol, component in the formation of a polyester resin. According to Fukuda, a toner that comprises a binder resin comprising a polyester resin obtained by reacting a polycarboxylic acid and such a polyol component has improved fixability at low temperature and resistance to offset. Col. 1, lines 45-61; col. 3, lines 38-40; and for example, resins A and B at col. 11, line 63, to col. 12, line 18, and in Tables 1 and 2. Resins A and B have acid values of 3 and 4.1 mg KOH/g, respectively, which are within the acid value required in reference claim 2 of Mikuriya. Fukuda further teaches that the polyester resin may have an acid value of 0.5 to 30 mg KOH/g,

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which overlaps the acid value range of 3 to 35 mg KOH/g recited in reference claim 2 of Mikuriya. Col. 6, lines 9-12.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in the claims of Mikuriya and the teachings of Fukuda, to use an oxyalkylene ether of a novolak phenolic resin as the alcohol component in the formation of the polar polyester resin with the titanium chelate catalyst recited in the claims of Mikuriya, where the resultant polyester resin has an acid value as required by the claims of Mikuriya, and to use the resultant polyester resin as the polar resin in the toner recited in the claims of Mikuriya. That person would have had a reasonable expectation of successfully obtaining a toner that has improved low temperature fixing characteristics and resistance to offset as taught by Fukuda.

The reference claims of Mikuriya do not recite that the toner can be a magnetic toner as recited in the instant claims. However, it is well known in the toner art that magnetic substances can be used as a toner colorant. See Tamura, col. 18, lines 56-64.

Hayashi'687 discloses a magnetic toner that comprises toner particles that comprise particular magnetic composite particles and a binder resin. The magnetic toner has a saturation

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magnetization and a residual (i.e., remanent) magnetization that meet the magnetization limitations recited in instant claim 1.

The Hayashi'687 magnetic composite particles meet the compositional limitation recited in instant claim 4. The discussion of Hayashi'687 in paragraph 7 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in the claims of Mikuriya and the teachings of Hayashi'687, to use the magnetic composite particles in example 7 of Hayashi'687 as the colorant in the toner rendered obvious over the subject matter recited in the claims of Mikuriya combined with the teachings of Fukuda, such that the resultant magnetic toner has the saturation and remanent magnetizations as recited in instant claim 1. That person would have had a reasonable expectation of successfully obtaining a magnetic toner that provides a deep black color and that has excellent fluidity and light resistance, as taught by Hayashi'687.

The claims of Mikuriya do not recite and Hayashi'687 does not disclose the use of a monoazo iron compound and the aluminum aromatic hydroxyl carboxylic acid of formula (13) recited in instant claim 1. Hayashi teaches that its magnetic toner may

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comprise a charge control agent and other additives, if necessary. Col. 29, lines 48-50.

Karaki teaches a charge control agent comprising a monoazo iron compound and an aluminum aromatic hydroxyl carboxylic acid. The discussion of Karaki in paragraph 7 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art to use the Karaki charge control agent comprising a monoazo iron compound and the aromatic hydroxycarboxylic acid Al compound, such as 3,5-di-t-butylsalicyclic acid Al compound (VIII), in the magnetic toner rendered obvious over the subject matter recited in the claims of Mikuriya combined teachings of Fukuda, Tamura, and Hayashi'687. That person would have had a reasonable expectation of successfully obtaining a magnetic toner that exhibits "a quick charging performance at an initial stage in continuous image formation" and that stably retains the chargeability for a long period as taught by Karaki.

11. Claim 5 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of Mikuriya in view of Fukuda, Tamura, Hayashi'687,

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and Karaki, as evidenced by applicants' admission I, further in view of additional teachings in Tamura.

The subject matter recited in the claims of Mikuriya in view of the teachings in Fukuda, Tamura, Hayashi'687, and Karaki, as evidenced by applicants' admission I, renders obvious a magnetic toner as described in paragraph 10 above, which is incorporated herein by reference.

The claims in Mikuriya do not recite a hydrophobic silica as recited in instant claim 5.

Tamura teaches hydrophobic silica particles that are treated with hexamethyldisilazane and a dimethylsilicone oil. The discussion of Tamura in paragraph 8 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art to use the Tamura hydrophobic silica powder A as an externally added hydrophobic silica in the magnetic toner rendered obvious over subject matter recited in the claims of Mikuriya combined with the teachings of Fukuda, Tamura, Hayashi'687, and Karaki, as evidenced by applicants' admission I. That person would have had a reasonable expectation of successfully obtaining a magnetic toner that has good transfer efficiency, that does not cause melt abrasion of the photosensitive drums, and that provides images without

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smearing even in an environment of high temperature and high humidity, as taught by Tamura.

12. The following rejections are provisional obviousness-type double patenting rejections because the conflicting claims in the cited pending US application have not in fact been patented.

13. Claims 1, 4, and 6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of US Application 10/900,177 (Application'177), as evidenced by that portion of the disclosure in Application'177 that supports the subject matter recited in the claims of Application'177 and applicants' admission at page 48, lines 20-26, and page 49, lines 12-26, of the instant specification (applicants' admission II), in view of Fukuda, Tamura, Hayashi'687, and Karaki, as evidenced by applicants' admission I.

Reference claim 1 recites a toner comprising toner particles that comprise a colorant, a binder resin, and inorganic fine particles. The binder resin is a resin having a polyester unit synthesized by using a titanium chelate catalyst that meets the Ti chelate catalyst limitations recited in

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instant claim 1. See formulas (I) to (III) in reference claim 1.

Reference claim 6, which depends from reference claim 1, requires that the toner particles have an average circularity of from 0.930 to 0.990 as measured by a flow type particle image analyzer. The range of 0.930 to 0.990 overlaps the average circularity range of "0.930 or more and less than 0.970" recited in instant claim 6. According to Application'177, the average circularity is defined by an equation that is identical to the equation used in determining the average circularity recited in instant claim 6. See paragraph 4 supra; and Application'177, page 70, line 5, to page 71, line 15. Application'177 states that average circularity is determined by the flow-type particle image analyzer FPIA-2100, which appears to be the same analyzer used in the instant specification to determine the average circularity recited in instant claim 6. Application'177, page 70, lines 10-12; and the instant application, page 48, lines 20-26, and page 49, lines 12-26. (When addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in a patent, "those portions of the specification which support the patent claims may be also be examined and considered." See MPEP 804,II.B.1, p. 800-22, citing In re Vogel, 164 USPA 619, 622 (CCPA 1970).)

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Application'177 does not disclose that the average circularity is for particles having equivalent circle diameters of 3 μm to 400 μm as recited in instant claim 6. However, as discussed supra, Application'177 definition of average circularity is identical to the definition of the average circularity recited in instant claim 6. In addition, the Application'177 average circularity is determined by the flow-type particle image analyzer FPIA-2100, which appears to be the same analyzer used in the instant specification to determine the average circularity recited in instant claim 6. Thus, it is reasonable to conclude that the Application'177 average circularity is determined in the same manner as the average circularity recited in instant claim 6. The burden is on applicants to prove otherwise. Fitzgerald, supra.

The reference claims of Application'177 do not recite that the polyester resin comprises a compound having a structure containing an oxyalkylene ether of a novolak phenolic resin as an alcohol component as recited in instant claim 1.

The use of oxyalkylene ethers of a novolak phenolic resin as the alcohol component in the formation of a polyester resin is well known in the toner art. Fukuda teaches that an oxyalkylene ether of a novolak phenolic resin can be used as the polyol, i.e., polyhydric alcohol, component in the formation of

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a polyester resin. The discussion of Fukuda in paragraph 10 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in the claims of Application'177, as evidenced by that portion of the disclosure in Application'177 that supports the subject matter recited in the claims of Application'177 and applicants' admission II, and the teachings of Fukuda, to use an oxyalkylene ether of a novolak phenolic resin as the alcohol component in the formation of the polar polyester resin with the titanium chelate catalyst recited in the claims of Application'177, and to use the resultant polyester resin as the polyester resin in toner recited in the claims of Application'177. That person would have had a reasonable expectation of successfully obtaining a toner that has improved low temperature fixing characteristics and resistance to offset as taught by Fukuda.

The reference claims of Application'177 do not recite that the toner can be a magnetic toner as recited in the instant claims. However, it is well known in the toner art that magnetic substances can be used as a toner colorant. See Tamura, col. 18, lines 56-64.

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Hayashi'687 discloses a magnetic toner that comprises toner particles that comprise particular magnetic composite particles and a binder resin. The magnetic toner has a saturation magnetization and a remanent magnetization that meet the magnetization limitations recited in instant claim 1. The Hayashi'687 magnetic composite particles meet the compositional limitation recited in instant claim 4. The discussion of Hayashi'687 in paragraph 7 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in the claims of Application'177, as evidenced by that portion of the disclosure in Application'177 that supports the subject matter recited in the claims of Application'177 and applicants' admission II, and the teachings of Hayashi'687, to use the magnetic composite particles in example 7 of Hayashi'687 as the colorant in the toner rendered obvious over the subject matter recited in the claims of Application'177 combined with the teachings of Fukuda, such that the resultant magnetic toner has the saturation and remanent magnetizations as recited in instant claim 1. That person would have had a reasonable expectation of successfully obtaining a magnetic toner that provides a deep black color and that has excellent fluidity and light

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resistance, as taught by Hayashi'687.

The claims of Application'177 do not recite and Hayashi does not disclose the use of a monoazo iron compound and the aluminum aromatic hydroxyl carboxylic acid of formula (13) recited in instant claim 1. Hayashi teaches that its magnetic toner may comprise a charge control agent and other additives, if necessary. Col. 29, lines 48-50.

Karaki teaches a charge control agent comprising a monoazo iron compound and an aluminum aromatic hydroxyl carboxylic acid. The discussion of Karaki in paragraph 7 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art to use the Karaki charge control agent comprising a monoazo iron compound and the aromatic hydroxycarboxylic acid Al compound, such as 3,5-di-t-butylsalicyclic acid Al compound (VIII), in the magnetic toner rendered obvious over the subject matter recited in the claims of Application'177, as evidenced by that portion of the disclosure in Application'177 that supports the subject matter recited in the claims of Application'177 and applicants' admission II, combined teachings of Fukuda, Tamura, and Hayashi'687. That person would have had a reasonable expectation of successfully obtaining a magnetic toner that

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exhibits "a quick charging performance at an initial stage in continuous image formation" and that stably retains the chargeability for a long period as taught by Karaki.

14. Claim 5 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of Application'177, as evidenced by that portion of the disclosure in Application'177 that supports the subject matter recited in the claims of Application'177 and applicants' admission II, in view of Fukuda, Tamura, Hayashi'687, and Karaki, as evidenced by applicants' admission I, further in view of additional teachings in Tamura.

The subject matter recited in the claims of Application'177, as evidenced by that portion of the disclosure in Application'177 that supports the subject matter recited in the claims of Application'177 and applicants' admission II, in view of the teachings in Fukuda, Tamura, Hayashi'687, and Karaki, as evidenced by applicants' admission I, renders obvious a magnetic toner as described in paragraph 13 above, which is incorporated herein by reference.

The claims in Application'177 do not recite a hydrophobic silica as recited in instant claim 5.

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Tamura teaches hydrophobic silica particles that are treated with hexamethyldisilazane and a dimethylsilicone oil. The discussion of Tamura in paragraph 8 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art to use the Tamura hydrophobic silica powder A as an externally added hydrophobic silica in the magnetic toner rendered obvious over subject matter recited in the claims of Application'177, as evidenced by that portion of the disclosure in Application'177 that supports the subject matter recited in the claims of Application'177 and applicants' admission II, combined with the teachings of Fukuda, Tamura, Hayashi'687, and Karaki, as evidenced by applicants' admission I. That person would have had a reasonable expectation of successfully obtaining a magnetic toner that has good transfer efficiency, that does not cause melt abrasion of the photosensitive drums, and that provides images without smearing even in an environment of high temperature and high humidity, as taught by Tamura.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The fax phone number for the

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organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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